

MASK-ALIGNMENT DETECTION CIRCUIT IN X AND Y DIRECTIONSABSTRACT OF THE DISCLOSURE

Described are mask-alignment detection structures that measure both the direction and extent of misalignment between layers of an integrated circuit using resistive elements for which resistance varies with misalignment in one dimension. Measurements in accordance with the invention are relatively insensitive to process variations, and the structures using to take these measurements can be formed along with other features on an integrated circuit using standard processes. One embodiment of the invention may be used to measure misalignment between two conductive layers. Other embodiments measure misalignment between diffusion regions and conductors and between diffusion regions and windows through which other diffusion regions are to be formed. A circuit in accordance with one embodiment includes row and column decoders for independently selecting mask-alignment detection structures to reduce the number of test terminals required to implement the detection structures.